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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,401	02/27/2004	Jeffrey Wannamaker	TVW/APPS2US	5238
59906	7590	02/20/2007	EXAMINER	
PATTERSON & SHERIDAN, LLP			DAO, THUY CHAN	
TVWORKS, LLC			ART UNIT	PAPER NUMBER
595 SHREWSBURY AVENUE			2192	
SUITE 100				
SHREWSBURY, NJ 07702				

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,401	WANNAMAKER ET AL.	
	Examiner	Art Unit	
	Thuy Dao	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 December 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) _____ is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 27 February 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the amendment filed on December 5, 2006.
2. Claims 1-30 have been examined.

Response to Amendments

3. Per Applicants' request, claims 1, 9-12, 14-16, and 25 have been amended.
4. The objection to claims 9-12, 14-15, and 25 is withdrawn in view of Applicants' amendments.

Drawings

5. Figure 5 is objected to as failing to comply with 37 CFR 1.84(p)(5) because it does not include the following reference sign(s) mentioned in the description: "System 300" as described in page 9, line 10.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure

describes," etc. (i.e., "The invention comprises a method and system for ...", line 1, emphasis added).

Appropriate correction is required.

7. The disclosure is objected to because of the following informalities:

the phrase "to produce a *Class file*" (e.g., page 4, line 30; page 5, line 1, ...) should be - -to produce a [[Class]] class file- -; and
"with respect to the *FIGURES included herein*" (page 5, line 2) should be - -with respect to the [[FIGURES]] figures herein- -.

Appropriate correction is required.

8. The use of the trademarks JAVA.TM., C#.TM., WINDOWS.TM.. has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Response to Arguments

9. The Applicants are thanked for a thorough reply. Applicants' arguments with respect to claims 1-30 have been considered but are either not persuasive (claims 1-15) or moot in view of the new ground(s) of rejection (claims 16-30).

10. The Applicants asserted that Beadle fails to teach or suggest claimed limitations (Remarks, page 8).

The examiner respectfully disagrees with these assertions. Beadle discloses a *tool for processing a p-code file, comprising:*

analyzing p-code methods to be compiled within said p-code file (e.g., FIG. 8, col.8: 61 – col.9: 10, analyzing p-code methods to be compiled within a p-code

file; col.6: 24-52, said a p-code file as a main program; col.4: 16-24; col.7: 57 – col.8: 21);

identifying those p-code methods to be compiled within the file (e.g., FIG. 8, blocks 814-824, identifying 818 Compile Again?YES/NO, 822 setJITEEnabled to TRUE; col.8: 12-21, identifying those p-code methods after rerunning a number of times depending on performance thresholds)

having associated with them at least one profile parameter above a threshold level (e.g., col.9: 28-39, setJITEEnabled to TRUE only those p-code methods having parameter COUNTER>THRESHOLD in block 816/YES; col.8: 12-21); and

annotating said identified p-code methods to be compiled in a manner adapted to enable preferential processing of said identified p-code methods to be compiled by a compiler (e.g., blocks 820-822, annotating ALLOWED = TRUE and setJITEEnabled(boolean ALLOWED) → setJITEEnabled(TRUE), so that said identified p-code methods will be just-in-time compiled by a JIT compiler 410 in FIG. 4; and

FIG. 6, col.7-38 – col.8: 1-21, annotating said identified p-code methods by a performance analysis method to be JITEEnabled()).

Claim Rejections – 35 USC §112, 2nd paragraph

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 2-3, 9, 11-15, 17-18, 25-27, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-3, 9, 11, 14-15, 17-18, and 25:

These claims contains the trademarks/trade names C#.TM and/or JAVA.TM. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218

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USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name.

Claims 12-13, 26-27, and 30:

These claims are also rejected based on virtue of their dependency on rejected claims 3 and 25.

Claim Rejections – 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Beadle (art of record, US Patent No. 6,530,075).

Claim 1:

Beadle discloses a *tool for processing a p-code file, comprising:*

analyzing p-code methods to be compiled within said p-code file (e.g., FIG. 8, col.8: 61 – col.9: 10, analyzing p-code methods to be compiled within a p-code file; col.6: 24-52, said a p-code file as a main program; col.4: 16-24; col.7: 57 – col.8: 21);

identifying those p-code methods to be compiled within the file (e.g., FIG. 8, blocks 814-824, identifying 818 Compile Again?YES/NO, 822 setJITEEnabled to TRUE; col.8: 12-21, identifying those p-code methods after rerunning a number of times depending on performance thresholds)

having associated with them at least one profile parameter above a threshold level (e.g., col.9: 28-39, setJITEEnabled to TRUE only those p-code methods having parameter COUNTER>THRESHOLD in block 816/YES; col.8: 12-21); and

annotating said identified p-code methods to be compiled in a manner adapted to enable preferential processing of said identified p-code methods to be compiled by a compiler (e.g., blocks 820-822, annotating ALLOWED = TRUE and setJITEEnabled(boolean ALLOWED) → setJITEEnabled(TRUE), so that said identified p-code methods will be just-in-time compiled by a JIT compiler 410 in FIG. 4; and

FIG. 6, col.7-38 – col.8: 1-21, annotating said identified p-code methods by a performance analysis method to be JITEnabled()).

Claim 2:

The rejection of claim 1 is incorporated. Beadle also discloses *said p-code file comprises one of a class file, an o-code file, and a ground file* (e.g., col.5: 38-67).

Claim 3:

The rejection of claim 1 is incorporated. Beadle also discloses *said p-code file comprises a application file including classes, said class being annotated in a manner adapted to enable preferential processing of said identified classes by a virtual machine (VM) just-in-time (JIT) compiler* (e.g., col.6: 24-62).

Claim 4:

The rejection of claim 1 is incorporated. Beadle also discloses *said annotations are provided in-line with said identified p-code methods* (e.g., col.5: 25-36).

Claim 5:

The rejection of claim 1 is incorporated. Beadle also discloses *said annotations are provided as a separate file* (e.g., FIG. 4, said annotations based on information in Data Structure 408, col.6: 24-36).

Claim 6:

The rejection of claim 1 is incorporated. Beadle also discloses *at least one profile parameter comprises at least one of a method execution time, a frequency of method invocation, a number of instructions and a use of loop structures* (e.g., col.5: 30-36).

Claim 7:

The rejection of claim 1 is incorporated. Beadle also discloses *at least one profile parameter comprises at least one of an execution time parameter, an input/output utilization parameter and a processor utilization parameter* (e.g., FIG. 7, col.8: 22-53).

Claim 8:

The rejection of claim 1 is incorporated. Beadle also discloses *said analyzing comprises identifying at least one of a static profile parameter and a dynamic profile parameter* (e.g., col.5: 4-26; col.8: 28-42).

Claim 9:

The rejection of claim 2 is incorporated. Beadle also discloses *said annotation comprises setting a normally unused bit within a method access flag field of an identified class file* (e.g., FIG. 6, col.7: 38-64).

Claim 10:

The rejection of claim 2 is incorporated. Beadle also discloses *said annotation comprises selectively setting each of a plurality of normally unused bits within a method access flag field of an identified class file, wherein said unused bits are selectively set*

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to define thereby a priority level of a respective annotated method (e.g., col.7: 57 – col.8: 21).

Claim 11:

The rejection of claim 3 is incorporated. Beadle also discloses *each identified byte-code portion of said application is associated with one of a plurality of priority levels, said annotation being indicative of respective priority levels* (e.g., FIG. 8, blocks 814-816, col.9: 1-27).

Claim 12:

The rejection of claim 3 is incorporated. Beadle also discloses *selectively pre-compiling at least a portion of said application file* (e.g., col.5; 59-65).

Claim 13:

The rejection of claim 12 is incorporated. Beadle also discloses *said precompiled portion of said application file is included within a virtual machine* (e.g., FIG. 4, block 400, col.6: 24-36).

Claim 14:

The rejection of claim 3 is incorporated. Beadle also discloses *only a portion of said identified method is annotated in a manner adapted for subsequent compilation, said method being annotated in a manner defining start and end byte code positions within said identified method* (e.g., col.5: 52-65).

Claim 15:

The rejection of claim 3 is incorporated. Beadle also discloses *said application file comprises a ground application file* (e.g., col.6: 37-40).

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15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 16-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beadle in view of US Patent Publication No. 2004/0221272 A1 to Wu et al. (art made of record, hereinafter "Wu").

Claim 16:

Beadle discloses a *method of adapting the interpretation of a p-code method within a p-code file by a virtual machine (VM), comprising:*

compiling p-code methods within a p-code file in a priority (e.g., FIG. 6, col.8: 1-21, blocks 612-614 setting priority, blocks 604-606 setting non-priority; FIG. 8, col.8: 61 – col.9: 10, different priority levels in block 818 Compile Again?YES/NO, block 820-822, setting ALLOWED = TRUE and JITEnabled() to priority TRUE; col.5: 38-66)

associated with compilation priority indicative annotation (e.g., FIGs. 5A-B, col.6: 53 – col.7: 18; col.5: 3-51); and

storing said compiled p-code methods in a cache (e.g. col.5: 19-22).

Beadle does not explicitly disclose [*storing said compiled p-code methods in a cache] for subsequent execution in place of corresponding interpreted p-code methods.*

However, in an analogous art, Wu further discloses [*storing said compiled p-code methods in a cache] for subsequent execution in place of corresponding interpreted p-code methods (e.g., page 2, [0027-0028]).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Wu into that of Beadle. One would have been motivated to do so to re-use native code associated with a previously compiled method by a JIT in-memory cache as suggested by Wu (e.g., [0027-0028]).

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Claims 17-20:

Claims 17-20 recite the same limitations as those of claims 2-5, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 17-20.

Claim 21:

The rejection of claim 16 is incorporated. Beadle also discloses *in response to cache memory utilization above a threshold level, prioritizing the contents of said cache memory* (e.g., FIG. 8, block 822, col.9: 30-39).

Claim 22:

The rejection of claim 21 is incorporated. Beadle also discloses *said cache memory contents are prioritized by deleting from said cache compiled code associated with a least recently executed method* (e.g., FIG. 6, blocks 604 and 612, col.7: 45-50 and 65-67).

Claim 23:

The rejection of claim 21 is incorporated. Beadle also discloses *said cache memory contents are prioritized by deleting from said cache compiled code associated with a previously compiled method having a lower priority level than a presently compiled method* (e.g., col.9: 30-39).

Claim 24:

The rejection of claim 20 is incorporated. Beadle also discloses *compiled byte-code stored in said cache is accessed via a cache map, said cache map being updated in response to a change in cache utilization* (e.g., col.6: 24-52).

Claim 25:

The rejection of claim 18 is incorporated. Beadle also discloses *compiling non-annotated byte-code within said application if said non-annotated byte-code utilizes virtual machine resources beyond a threshold level* (e.g., FIG. 8, block 818, col.9: 21-27).

Claim 26:

The rejection of claim 25 is incorporated. Beadle also discloses *said compiled non-annotated byte-code is assigned a priority level in accordance with said utilized virtual machine resources* (e.g., col.9: 1-27).

Claim 27:

The rejection of claim 26 is incorporated. Beadle also discloses *said priority level of said annotated byte-code is further adapted in accordance with said utilized virtual machine resources* (e.g., col.8: 22-53).

Claim 28:

The rejection of claim 20 is incorporated. Beadle also discloses *said compiled annotated byte-code is assigned a priority level in accordance with said utilized virtual machine resources* (e.g., col.8: 61-67).

Claim 29:

The rejection of claim 28 is incorporated. Beadle also discloses *said priority level of said annotated byte-code is further adapted in accordance with said utilized virtual machine resources* (e.g., col.8: 22-53).

Claim 30:

The rejection of claim 26 is incorporated. Beadle also discloses *said virtual machine resources comprise at least one of an execution time parameter, an input/output utilization parameter and a processor utilization parameter* (e.g., col.8: 22-53).

Conclusion

17. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18 Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone is (571) 272 8570. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 6:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



TUAN DAM
SUPERVISORY PATENT EXAMINER